

In hatching the young larvæ emerged from the bottom of the egg, the clear yellowish-white colour becoming dark and blackish and the cohesion of the empty cases being lost, the eggs fell gradually apart and the mass finally disintegrated.

The young larvæ were carefully separated and grew rapidly, increasing by the next morning fully 50 per cent. in length and doubling their size within 24 hours. The adults began emerging in ten days from date of oviposition, though an unavoidable lack of food material for a short time may have slightly lengthened the normal time of development.

## TWO NEW SEED-INFESTING CHALCIS FLIES.

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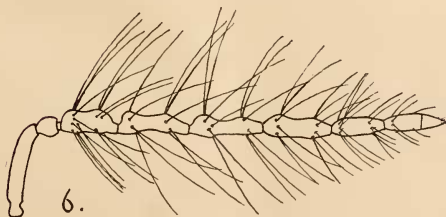
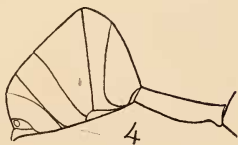
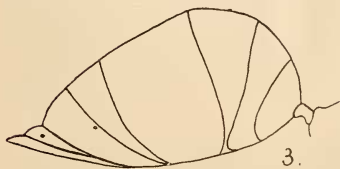
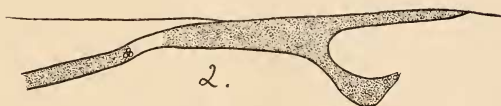
*Prodecatoma phytophaga*, n. sp.—Female: Length, 2.4 to 2.7 mm.; abdomen, 1.2 to 1.3 mm.

Head and thorax densely umbilicate-punctate. General colour black; face, cheeks and a ring around the eyes light yellowish-brown; sides of prothorax, lateral angle of scapulæ, mesopleuræ and ventral side of abdomen more or less suffused with brownish; pronotum with two small brownish spots sometimes obsolete.

Head seen from above as wide as the thorax, concave behind, strongly convex in front, a distinct frontal furrow present, in which the front ocellus is placed; seen from in front a little wider than high; the eyes small and widely separated. Face with a system of fine ridges radiating from the clypeus.

Propodeum with a median longitudinal depression, broad and regularly concave; propodeum on the sides rugose-reticulate, within the furrow densely, finely and distinctly reticulate-punctate; anterior end of depression with two smooth submedian pits, posterior end with a semi-circular row of similar pits. Between this row and the insertion of the petiole there is a transversely striate elevation. No median carina present, except between the two anterior pits. Colour of propodeum black, except that in some specimens there is a testaceous streak on each side of median depression.

Antennæ dusky, under side of scape yellowish; club and scape of about equal length; pedicel short; funicle joints submoniliform, the first slightly longer than the others; club elongate-oval, obtusely pointed at tip, the last two segments not separated by a distinct suture. Coxæ black, in some specimens more or less yellowish; rest of legs dull yellowish;



PRODECATOMA PHYTOPHAGA, CROSBY.

posterior femora with a black area on the outside; posterior tibiæ more or less infusate. Wings hyaline; veins brownish. For relative length of veins see figs. 1 and 2.

Abdomen seen from above pointed ovate; segment 5 twice as long as 4, its posterior margin broadly concave; segment 3 two-thirds as long as 4; dorsum of abdomen black, the venter brownish, the amount of brownish varying in different specimens; sometimes a band runs up on the side of segment 5 so as to be visible from above; on segment 5 the brownish on the anterior margin is nearly continuous across the dorsum; on segment 7 the black is confined to a large basal triangular spot, which does not quite attain the tip. The abdomen is smooth and shining, with a very delicate hexagonal reticulation of impressed lines. The relative length of the segments as seen from the side is shown in fig. 3.

Male: Length, 2.7 mm.; abdomen, 1.2 mm. Differs from the female in having the thorax entirely black (in two specimens only are the pleuræ brownish), in the greater amount of black on the head and in the very small amount of brownish on abdomen.

Median longitudinal depression of propodeum with a distinct furrow, irregularly rugose, sometimes with the ridges so arranged as to give a median carina.

Antennæ black, with the scape yellowish, except distal half above; pedicel below and ring-joint yellowish; the funicle joints pedicellate and distinctly constricted in the middle, clothed with two whorls of long hairs. The first joint of the club is more distinctly separated than the last two. Posterior femora and tibiæ darker than in the female.

Petiole much longer than posterior coxæ, three-fifths as long as rest of abdomen, finely rugulose, with a short median and two lateral carinæ at the posterior end. Abdomen seen from the side straight below, highly arched and squarely declivous in front. The relative proportion of the segments as seen from the side are shown in fig. 4.

Described from 5 females and 17 males, reared during the summer of 1908 from seeds of Virginia Creeper, *Parthenocissus quinquefolia*, collected at Ithaca and Taughannock Falls, N. Y. Under natural conditions the adults appear during late July and early August.

*Eurytoma rhois*, n. sp.—Female: Length, 1.7 to 2.8 mm.; abdomen, .9 to 1.5 mm. General colour black; head and thorax densely umbilicate-punctate.

Dorsal view of the head is shown in fig. 7. In form and sculpture the thorax is very similar to that of *Eurytomocharis triodia*. Propodeum

coarsely rugose on the sides ; the longitudinal median depression broad and shallow, densely and distinctly reticulate-punctate, except in the longitudinal furrow, which is rugose and much wider in front than behind, where there is frequently a single or rarely a double longitudinal carina. In the smaller specimens the median furrow is entirely lacking.

Antennæ slightly clavate, dusky, except scape beneath, which is dull brownish-yellow. The relative length of the segments is shown in fig. 8 ; viewed at a different angle the club is a little broader. Coxæ black ; femora black, tip yellowish-brown ; tibiæ brownish, more or less infusate medially ; tarsi nearly white. On the cephalic face of front coxæ there is a deep diagonal furrow bounded in front by a distinct ridge. This ridge near the upper outer angle makes a sharp turn and extends transversely around on the side of the segment. Mesosternum has a distinct median pit in front ; median carina lacking, except posteriorly, where it is represented by a delicate ridge. Wings hyaline. (Figs. 9 and 10.)

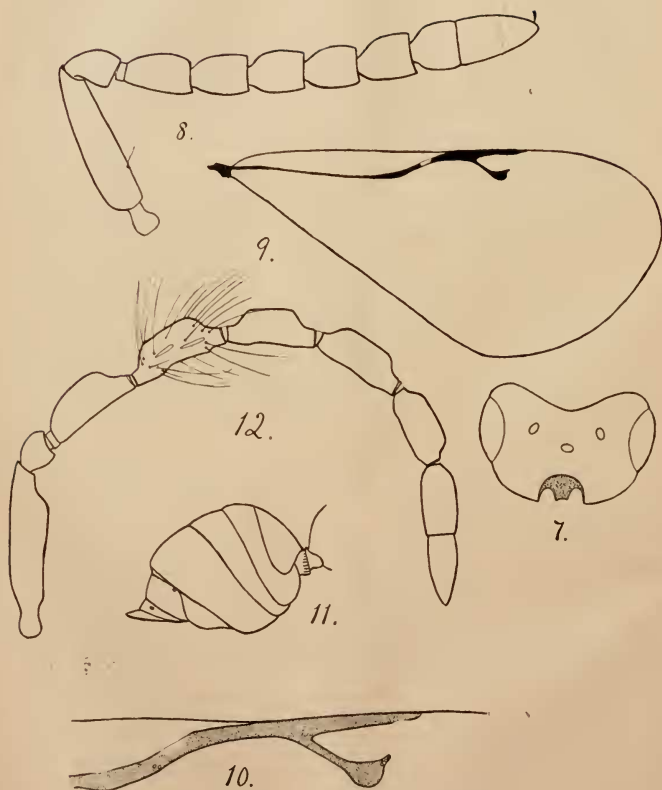
Abdomen smooth, without sculpture, subcompressed, seen from the side broadly ovate, the tip sharp-pointed ; segments 2, 3, and 4 subequal, the fifth longer than 3 and 4 together, the sixth very narrow and gently emarginate in front of the spiracle of the seventh ; the seventh segment clothed with fine white pile. (Fig. 11.)

Male: Length, 2 to 2.4 mm.; abdomen, .9 mm. These measurements are only approximate on account of the contracted condition of the abdomen in these specimens.

Propodeum with the median longitudinal depression wide and shallow, the furrow much less distinct than in female. The legs and wing-veins are much darker than in female. Antennæ black ; scape at base and ring-joint brownish. Scape slightly enlarged beneath towards tip ; pedicel subglobose ; the five funicle joints subequal, arched above, not constricted at the middle, briefly pedicellate, and each with two whorls of rather short hairs ; club as long as scape, two-jointed. (Fig. 12.) Petiole slightly longer than the hind coxæ, and finely but distinctly rugulose-reticulate ; coxæ with the same sculpture above. The body of abdomen is highly arched above, squarely declivous in front ; the fourth segment is longer than the fifth and sixth together.

Described from numerous specimens reared during the summer of 1908 from seeds of Sumac, *Rhus hirta*, collected at Ithaca and Taughan-nock Falls, N. Y.

Schreimer (Zeitschr. wiss. Insbiol., IV, pp. 26-28, 1908) gives an account of the phytophagous habits of another species of this genus, to



EURYTOMA RHOIS, CROSBY.

which Mayr has given the manuscript name of *Eurytoma Schreimeri*. It infests the seeds of the plum in Astrakan, Russia, and causes considerable damage to the crop, the infested fruit dropping while still quite small.

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EXPLANATION OF PLATES 2 AND 3.

Plate 2, fig.	1.—	Prodecatoma phytophaga,	♀ wing.
" "	2.—	" "	stigmal area of ♀ wing.
" "	3.—	" "	♀ abdomen from side.
" "	4.—	" "	♂ abdomen from side.
" "	5.—	" "	♀ antenna, hairs omitted.
" "	6.—	" "	♂ antenna.
Plate 3, "	7.—	Eurytoma rhois,	♀ head from above.
" "	8.—	" "	♀ antenna, hairs omitted.
" "	9.—	" "	♀ wing.
" "	10.—	" "	stigmal area of ♀ wing.
" "	11.—	" "	♀ abdomen from side.
" "	12.—	" "	♂ antenna.

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THE JAPANESE COCCIDÆ.

BY T. D. A. COCKERELL, BOULDER, COLORADO.

In the Bulletin of the Imperial Central Agricultural Experiment Station of Japan, Vol. 1, No. 2 (1907), Mr. S. I. Kuwana has published a new list of the Coccidæ of Japan, with numerous new species. I am indebted to Dr. L. O. Howard for the loan of the work, which is probably little known in this country. A very beautiful *Icerya*, illustrated by coloured figures, is introduced as *I. okadæ*. It is, however, exactly like *I. seychellarum* (Westwood), and I do not see any reason for separating it from that species, except that according to the figure the femur is much stouter. *Cerococcus muratæ* is a most interesting species, but I think it should be known as *Solenophora muratæ* (Kuw.). *Pseudococcus takæ* (*Dactylopius takæ*, Kuw.) is a new species on bamboo; the figure of the antennæ shows nine joints, although the description indicates only eight. From the figures, and the general appearance, one might suspect the insect to be a *Phenacoccus*. *Ripersia oryzæ*, Kuw., found at roots of rice, has large subcylindrical caudal lobes, and cannot be regarded as a true *Ripersia*; no doubt the discovery of the larva and male will throw light on its affinities. *Aclerda* (?) *biwakoensis*, Kuw., on *Phragmites*, should be compared with *A. japonica*, Newstead; it might be the same, but for apparent differences at the caudal end. *Pulvinaria Kuwacola*, on